

AMENDMENTS TO THE CLAIMS

1-6. (Canceled)

7. (New) A vaccine formulation for preventing and/or treating infection by a pathogenic member of the family Enterobacteriaceae in a mammalian subject comprising a peptide encoded by a nucleic acid molecule that hybridizes under stringent conditions to a nucleic acid molecule selected from the group of the nucleotide sequence of SEQ ID NO: 4 and the nucleotide sequence complementary to SEQ ID NO:4, and a pharmaceutically acceptable carrier.

8. (New) The vaccine formulation of Claim 7 wherein the pharmaceutically acceptable carrier is suitable for administration by a route selected from the group consisting of an oral route, an intranasal route and a parenteral route.

9. (New) The vaccine formulation of Claim 7 wherein the pharmaceutically acceptable carrier is selected from the group consisting of sesame oil, peanut oil, sterile aqueous solution, and isotonic solutions suitable for injection.

10. (New) The vaccine formulation of Claim 7 wherein said pharmaceutically acceptable carrier comprises liposomes.

11. (New) The vaccine formulation of Claim 8 wherein said vaccine formulation is packaged in enteric coated capsules.

12. (New) The vaccine formulation of Claim 7 which further comprises a stabilizer.

13. (New) The vaccine formulation of Claim 12 wherein the stabilizer is selected from the group consisting of sorbitol and gelatin.

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14. (New) The vaccine formulation of Claim 7 which further comprises an immunoadjuvant.

15. (New) The vaccine formulation of Claim 14 wherein the immunoadjuvant is selected from the group consisting of: the water-in-oil emulsion of Freund, light mineral oil, Arlacel A, Arlacel C, liposome-antigen combinations, cholera toxin B subunit conjugates and monophosphoryl lipid A.

16. (New) The vaccine formulation of Claim 7 which comprises a peptide that is encoded by a nucleic acid molecule that hybridizes under stringent conditions to the nucleotide sequence of SEQ ID NO:4 or its complement.

17. (New) The vaccine formulation of Claim 16 wherein said peptide is derived from a recombinant organism.

18. (New) The vaccine formulation of Claim 16 wherein said peptide is produced in a transgenic plant.

19. (New) The vaccine formulation of Claim 16 which comprises an amount of the peptide effective to promote the clearance of the pathogenic enterobacteriaceae from the gastrointestinal tract of a mammalian subject infected by a pathogenic member of the family Enterobacteriaceae when administered thereto.